

REMARKS

The Office Action of July 2, 2003 has been carefully studied. Applicants acknowledge the allowability of claim 6 if placed in independent form. For the time being, however, this claim remains in dependent form inasmuch as it is believed that amended claim 1 is allowable, as will be explained below. It is also seen that new claims 17-19 add further unobviousness to claim 1 as will be discussed below.

The only issue presented in the Office Action is the patentability of the claims over Cosyns et al. (6,072,091), a patent owned by the Assignee of the present invention, namely Institut Francais du Petrole, a renowned petroleum research organization.

Referring now to claim 1, it is seen that this claim is amended so as to make it clear that the liquid from the draw-off level is passed to the same hydrogenation zone (external reactor in the drawing) from which the hydrogenation effluent is then recycled to the distillation column. Furthermore, that the recycle stream is passed to the distillation column at a level above the draw-off point. This feature is not only supported by the drawing, but also on page 5 of the specification, last complete paragraph, it is indicated that an internal reflux in the column is created by virtue of the reinjection of the flow from the hydrogenation reactor to above the draw-off level. (Whereas the same paragraph states that it is advantageous to reinject the flow to the highest possible point in the column relative to the draw-off level, one of ordinary skill in the art would appreciate that as long as the reinjection level is above the draw-off level, an internal reflux in the column would be developed.)

In contradistinction to claim 1 wherein the recycle stream is introduced into the column at a point above the withdrawal stream, it is seen that in the Cosyns et al. patent 6,072,091, the recycle stream is added to the column at a point below the withdrawal stream from each associated reactor. As stated on column 3, lines 9-11, the function of the recycle stream in Cosyns et al. is to "ensure continuity of distillation". Accordingly, Applicants' concept of an internal reflux developed by having the recycle stream passed to the distillation column above the withdrawal stream, associated with the same hydrogenation zone, is not suggested by Cosyns et al., and in the absence of Applicants' disclosure, it would fly in the face of Cosyns et al. to

modify it so that the recycle streams are changed from below the withdrawal point to above the withdrawal point.

Referring now to new claim 17, it is seen that this claim specifies that the withdrawal point is in the drainage zone. According to Applicants' definition of the drainage zone in Applicants' specification, the drainage zone is below the feed level of the feedstock to the distillation column (page 4, second complete paragraph). By inspection of Cosyns et al., there is no disclosure of withdrawal points from a zone below the feed point. This adds further unobviousness to the invention as set forth in claim 1.

New claim 18 is dependent on claim 17 and specifies that the recycle stream is passed to the enriching zone which is defined as above the feed point (page 4, first complete paragraph of the specification). The examples in Applicants' specification point out the advantages obtained by locating the draw-off point in the drainage zone and the recycle point in the enriching zone.


Finally, new claim 19, which is dependent on claim 17 is similar to claim 6 but does not specify that the feed point is in the center of the column, but it is believed clear from the preceding analysis as well as the Examiner's allowance of claim 6 that the prior art does not suggest the features of any of the above discussed claims, much less that of new claim 19.

As for the other dependent claims at issue claims 2-5 and 7-16, Applicants will not burden the record by discussing same in view of the allowability of the above discussed claims. For the record, Applicants do not necessarily agree with the Examiner's application of the prior art to these dependent claims, and reserve the right to provide a rebuttal in the future, if ever necessary.

In view of the above remarks, favorable reconsideration is courteously requested. If there are any remaining issues which can be expeditiously resolved by a telephone conference, the Examiner is courteously invited to telephone Counsel at the number indicated below.

The Commissioner is hereby authorized to charge any fees associated with this response or credit any overpayment to Deposit Account No. 13-3402.

Respectfully submitted,



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